

REMARKS

Reconsideration and allowance of the present patent application based on the foregoing amendments and following remarks are respectfully requested.

In the Office Action dated May 11, 2006, the Examiner rejected claims 11 and 16-20, under 35 U.S.C. 112, ¶2, as allegedly being indefinite; and rejected claims 1-7, 9-11, and 14-20, under 35 U.S.C. 103(a), as allegedly being unpatentable over Brink '275 (U.S. Patent No. 4,778,275) in view of Shigeo '495 (JP 6-302495).

By this Amendment, claims 1 and 11 have been amended to provide a clearer presentation of the claimed subject matter and claim 10 has been cancelled without prejudice or disclaimer. Applicants submit that no new matter has been added. Accordingly, after entry of this Amendment, claims 1-7, 9, 11-20 will remain pending in the patent application.

Applicants submit that by virtue of the changes to claim 11, the alleged indefinite terms have been corrected. Accordingly, the immediate withdrawal of the 112, ¶2 rejections of claims 11 and 16-20 is respectfully requested.

Applicants respectfully traverse the prior art rejections, under 35 U.S.C. §103(a), for the following reasons:

I. Prior Art Rejections of Claims 1 & 11 Under 35 U.S.C. §103(a).

As indicated above, independent claim 1 is directed to positioning an object at a required position on a first object table in a lithographic projection apparatus. Claim 1, therefore, clearly and positively recites, *inter alia*, measuring a displacement between the first position of the object and a required position of the object on the first object table, removing the object from the first object table, and then *translating the removed object*, the first object table, or both, relative to each other *by substantially the measured displacement*, in a *direction substantially parallel to the plane of the first object table*.

Despite the Examiner's assertions, there is absolutely nothing in the applied references that teach or suggest *each and every limitation* of claim 1, including the features identified above. Applicants respectfully submit that the Examiner's bases for the rejections are woefully inadequate as they appear to ignore the claim language on its face.

For example, the Examiner alleged that the Brink '275 reference discloses placing the object in a first position, measuring the displacement, translating the object and the object table relative to each other, and placing the object at the required position. (See, Office Action, page 3). This is an entirely inaccurate characterization of the teachings of Brink '275.

First of all, Brink '275 is directed to aligning a mask **MA** with a substrate **W** – which is clearly different from positioning an object at a required position on a first object table, as required by claim 1. What Brink '275 does disclose is that alignment system **AS₁** determines the relative position of mask mark **M₂** to substrate mark **P₁** in which the mask **MA** (construed by the Examiner as corresponding to the claimed “object”) remains on the mask table **MT** and the substrate **W** remains on the substrate table **WT**. (See, Brink '275: col. 8, lines 6-9, lines 23-35; FIG. 3). Brink '275 further discloses that drive systems then move the mask **MA** and the substrate **W** relative to each other so that substrate mark **P₁** coincides with mask mark **M₂**. (See, Brink '275: col. 8, lines 58-63). In other words, Brink '275 merely provides moving the mask table **MT** with the mask **MA** relative to the substrate table **WT** with substrate **W**.

In so doing, Brink '275 does not, in any way, teach or suggest translating the object, the first object table, or both, relative to each other by substantially the measured displacement, in a direction substantially parallel to the plane of the first object table, as required by claim 1. That is, nowhere does Brink '275 remotely suggest *translating the mask **MA** (“object”) relative to the mask table **MT** (“object table”)* - much less doing so, by substantially the measured displacement, in a direction substantially parallel to the plane of the first object table. Brink '275 *only* discloses moving the mask table **MT** with the mask **MA** relative to the substrate table **WT** with substrate **W**.

Moreover, taking into account the changes to claim 1, there is nothing in Brink '275 that remotely teaches or suggests translating the *removed object*, the first object table, or both, relative to each other. As acknowledged by the Examiner, Brink '275 fails to disclose removing the mask **MA** from mask table **MT**. Thus, Brink '275 must also fail to teach translating the removed object, as now required by claim 1.

Applicants further submit that Shigeo '495 is incapable of curing the deficiencies noted above regarding Brink '275. As best understood, Shigeo '495 merely discloses

removing the reticle 12 from the stage 11, rotating the stage 11, placing the reticle 12 back on the stage 11 and rotating the stage 11 in the reverse direction to return the reticle 12 to its original condition. (See, Shigeo '495: Abstract; FIG. 8). Shigeo '495, therefore, only teaches “rotating” the stage 11 and does not, in any way, teach *translating* the removed object, the first object table, or both, relative to each other by substantially the measured displacement, *in a direction substantially parallel to the plane of the object table*, as required by claim 1. The Examiner must realize that rotating is clearly different from translating in a direction substantially parallel to the plane of the object table.

Moreover, Shigeo '495 specifically teaches that if rotation angle ϕ_1 is greater than an allowable value, the stage 11 is rotated by a “mechanically limit angle ϕ_2 ”. So even if translating could somehow be (unreasonably) construed as being equivalent to rotating, Shigeo '495 is incapable of teaching translating the removed object, the first object table, or both, relative to each other *by substantially the measured displacement*, as required by claim 1.

For at least these reasons, Applicants submit that none of the applied references teach the claimed combination of elements recited by amended claim 1. Accordingly, claim 1 is patentable over these references. As such, Applicants respectfully request the immediate withdrawal of the rejection of claim 1, under 35 U.S.C. §103(a). In addition, because claims 2-7, 9, and 14-15 depend from claim 1, claims 2-7, 9, and 14-15 are patentable at least by virtue of dependency as well as for their additional recitations. Accordingly, the immediate withdrawal of the prior art rejections of claims 2-7, 9, and 14-15 is respectfully requested.

With regard to independent claim 11, Applicants remain at a loss as to how the combination of Brink '275 and Shigeo '495 are remotely capable of teaching or suggesting each and every feature of claim 1. The Examiner summarily asserted that claim 11 is rejected for the same reasons as claim 1. Applicants strenuously disagree.

First of all, by virtue of reciting features that are similar to the patentable features of claim 1, claim 11 is patentable for at least the reasons given with respect to claim 1.

Equally important, however, is the fact that claim 11 is directed to positioning a *substrate* at a required position on a *substrate table*. To this end, claim 11 specifically and

positively recites measuring a displacement between the first position of the *substrate* and a required position of the *substrate* on the *substrate table*, removing the *substrate* from the *substrate table*, and translating the *substrate*, the *substrate table*, or both, relative to each other by substantially the displacement, in a direction substantially parallel to the plane of the *substrate table*. There is absolutely nothing in either Brink '275 and Shigeo '495 that has anything to do with the positioning, measuring, removing, or translating a *substrate* or *substrate table*, as these references are specifically dedicated to the alignment of reticles or masks.

Applicants, therefore, submit that the Brink '275 and Shigeo '495 references do not, in any way, remotely suggest or otherwise infer the application of their respective teachings to substrates or substrate tables. The only disclosure that teaches positioning a mask at a required position on a mask table as well as positioning a substrate at a required position on a substrate table is in the Applicants' disclosure. The assertion that Brink '275 and Shigeo '495 teach the features of claim 11 can only be achieved by disregarding the recited claim language or based on impermissible hindsight.

For at least these reasons, Applicants submit that none of the applied references teach the claimed combination of elements recited by amended claim 11. Accordingly, claim 11 is patentable over these references. As such, Applicants respectfully request the immediate withdrawal of the rejection of claim 11, under 35 U.S.C. §103(a). In addition, because claims 16-20 depend from claim 11, claims 16-20 are patentable at least by virtue of dependency as well as for their additional recitations. Accordingly, the immediate withdrawal of the prior art rejections of claims 16-20 is respectfully requested.

II. Conclusion.

All matters having been addressed and in view of the foregoing, Applicants respectfully request the entry of this Amendment, the Examiner's reconsideration of this application, and the immediate allowance of all pending claims.

Applicant's Counsel remains ready to assist the Examiner in any way to facilitate and expedite the prosecution of this matter. If any point remains in issue in which the Examiner feels may be best resolved through a personal or telephone interview, please contact the Undersigned at the telephone number listed below.

Please charge any fees associated with the submission of this paper to Deposit Account Number **03-3975**. The Commissioner for Patents is also authorized to credit any over payments to the above-referenced Deposit Account.

Respectfully submitted,

PILLSBURY WINTHROP SHAW PITTMAN LLP



E. RICO HERNANDEZ
Reg. No. 47641
Tel. No. (703) 770-7788
Fax No. (703) 770-7901

ERH/dlh
P.O. Box 10500
McLean, VA 22102
(703) 770-7900